

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A dielectric-layer-provided copper foil, suitable for forming a capacitor layer, ~~on whose one side, the foil having~~ a dielectric layer is formed on one side thereof, wherein, characterized in that:

said dielectric layer is an inorganic-oxide sputter film formed on one side of the a copper foil ~~in accordance with~~ by a sputtering vapor deposition method,

wherein the inorganic-oxide sputter film has and having a thickness of 1.0 μm or less and a has pit-like defective portions disposed therein,

and wherein at least the pit-like defective portions are formed on the inorganic-oxide sputter film is sealed by a polyimide resin.

2. (Currently Amended) The dielectric-layer-provided copper foil for forming a capacitor layer according to claim 1, ~~characterized in that~~ wherein:

an the inorganic-oxide sputter film is formed by using any one of or two or more of aluminum oxide, tantalum oxide, and barium titanate.

3. (Currently Amended) The dielectric-layer-provided copper foil for forming a capacitor layer according to claim 1, ~~characterized in that~~ wherein:

the polyimide resin contains a dielectric filler.

4. (Currently Amended) The dielectric-layer-provided copper foil ~~for forming a capacitor layer according to~~ of claim 1, characterized in that wherein:

a binder metal layer is interposed ~~formed~~ between a the copper foil layer and a the dielectric layer.

5. (Currently Amended) The dielectric-layer-provided copper foil ~~for forming a capacitor layer according to~~ of claim 4, characterized in that wherein:

a the binder metal layer is formed ~~by any~~ from one of the group selected from cobalt, chromium, nickel, nickel-chromium alloy, zirconium, palladium, molybdenum, tungsten, titanium, aluminum, platinum, and an alloy of one of these metals.

6. (Currently Amended) The dielectric-layer-provided copper foil ~~for forming a capacitor layer according to~~ of claims 1, characterized in that wherein:

a high-melting-point metal layer is interposed ~~formed~~ between a the copper foil layer and a the dielectric layer.

7. (Currently Amended) The dielectric-layer-provided copper foil ~~for forming a capacitor layer according to~~ of claim 6, characterized in that wherein:

a the high-melting-point metal layer is formed ~~by any~~ from one of the group selected from nickel, chromium, molybdenum, platinum, titanium, tungsten, and an alloy of one of these metals.

8. (Currently Amended) The dielectric-layer-provided copper foil ~~for forming a capacitor layer according to~~ of claim 6, ~~characterized in that~~ wherein:

a high-melting-point metal layer and a binder metal layer are formed between a copper foil layer and a dielectric layer.

9. (Currently Amended) A copper clad laminate for forming a capacitor layer, using the copper foil layer of the dielectric-layer-provided copper foil of claim 1 as a lower electrode forming layer, ~~characterized in that~~ wherein:

an upper electrode forming layer is formed on the dielectric layer ~~and~~ to provide a three-layer configuration ~~formed by three layers~~ consisting essentially of a lower electrode forming layer, a dielectric layer, and an upper electrode forming layer ~~is used~~.

10. (Currently Amended) The copper clad laminate for forming a capacitor layer, using the copper foil layer of the dielectric-layer-provided copper foil of claim 1 as a lower electrode forming layer, ~~characterized in that~~ wherein:

a binder metal layer and an upper electrode forming layer are formed on the dielectric layer ~~and~~ to provide a four-layer configuration ~~formed by four layers~~ as

consisting essentially of a lower electrode forming layer, a dielectric layer, a binder metal layer, and an upper electrode forming layer ~~is used~~.

11. (Currently Amended) A copper clad laminate for forming a capacitor layer, using the copper foil layer of the dielectric-layer-provided copper foil of claim 1 as a lower electrode forming layer, ~~characterized in that~~ wherein:

a high-melting-point metal layer and an upper electrode forming layer are formed on the dielectric layer and to provide a four-layer configuration ~~is used which is formed by four layers~~ consisting essentially of a lower electrode forming layer, a dielectric layer, a high-melting-point metal layer, and an upper electrode forming layer.

12. (Currently Amended) A copper clad laminate for forming a capacitor layer, using the copper foil layer of the dielectric-layer-provided copper foil of claim 1 as a lower electrode forming layer, ~~characterized in that~~ wherein:

a high-melting-point metal layer, a binder metal layer, and an upper electrode forming layer are formed on the dielectric layer and to provide a five-layer configuration ~~is used which is formed by five layers~~ consisting essentially of a lower electrode forming layer, a dielectric layer, a binder metal layer, a high-melting-point metal layer, and an upper electrode forming layer.

13. (Currently Amended) A copper clad laminate for forming a capacitor layer, using the copper foil layer of the dielectric-layer-provided copper foil of claim 4 as a lower electrode forming layer, ~~characterized in that~~ wherein:

an upper electrode forming layer is formed on the dielectric layer ~~and~~ to provide a four-layer configuration ~~is used which is formed by four layers~~ consisting essentially of a lower electrode forming layer, a binder metal layer, a dielectric layer, and an upper electrode forming layer.

14. (Currently Amended) A copper clad laminate for forming a capacitor layer, using the copper foil layer of the dielectric-layer-provided copper foil of claim 4 as a lower electrode forming layer, ~~characterized in that~~ wherein:

a binder metal layer and an upper electrode forming layer are formed on the dielectric layer ~~and~~ to provide a five-layer configuration ~~is used which is formed by five layers~~ consisting essentially of a lower electrode forming layer, a binder metal layer, a dielectric layer, a binder metal layer, and an upper electrode forming layer.

15. (Currently Amended) A copper clad laminate for forming a capacitor layer, using the copper foil layer of the dielectric-layer-provided copper foil of claim 4 as a lower electrode forming layer, ~~characterized in that~~ wherein:

a high-melting-point metal layer and an upper electrode forming layer are formed on the dielectric layer ~~and~~ to provide a five-layer configuration ~~is used which is formed by five layers~~ consisting essentially of a lower electrode forming layer, a binder metal

layer, a dielectric layer, a high-melting-point metal layer, and an upper electrode forming layer.

16. (Currently Amended) A copper clad laminate for forming a capacitor layer, using the copper foil layer of the dielectric-layer-provided copper foil of claim 4 as a lower electrode forming layer, ~~characterized in that~~ wherein:

a high-melting-point metal layer, a binder metal layer, and an upper electrode forming layer are formed on the dielectric layer ~~and~~ to provide a six-layer configuration ~~is used which is formed by six layers~~ consisting essentially of a lower electrode forming layer, a binder metal layer, a dielectric layer, a binder metal layer, a high-melting-point metal layer, and an upper electrode forming layer.

17. (Currently Amended) A copper clad laminate for forming a capacitor layer, using the copper foil layer of the dielectric-layer-provided copper foil of claim 6 as a lower electrode forming layer, ~~characterized in that~~ wherein:

an upper electrode forming layer is formed on the dielectric layer ~~and~~ to provide a four-layer configuration ~~is used which is formed by four layers~~ consisting essentially of a lower electrode forming layer, a high-melting-point metal layer, a dielectric layer, and an upper electrode forming layer.

18. (Currently Amended) A copper clad laminate for forming a capacitor layer, using the copper foil layer of the dielectric-layer-provided copper foil of claim 6 as a lower electrode forming layer, ~~characterized in that~~ wherein:

a binder metal layer and an upper electrode forming layer are formed on the dielectric layer and to provide a five-layer configuration ~~is used which is formed by five layers~~ consisting essentially of a lower electrode forming layer, a high-melting-point metal layer, a dielectric layer, a binder metal layer, and an upper electrode forming layer.

19. (Currently Amended) A copper clad laminate for forming a capacitor layer, using the copper foil layer of the dielectric-layer-provided copper foil of claim 6 as a lower electrode forming layer, ~~characterized in that~~ wherein:

a high-melting-point metal layer and an upper electrode forming layer are formed on the dielectric layer and to provide a five-layer configuration ~~is used which is formed by five layers~~ consisting essentially of a lower electrode forming layer, a high-melting-point metal layer, a dielectric layer, a high-melting-point metal layer, and an upper electrode forming layer.

20. (Currently Amended) A copper clad laminate for forming a capacitor layer, using the copper foil layer of the dielectric-layer-provided copper foil of claim 6 as a lower electrode forming layer, ~~characterized in that~~ wherein:

a high-melting-point metal layer, a binder metal layer, and an upper electrode forming layer are formed on the dielectric layer and to provide a six-layer configuration

~~is used which is formed by six layers~~ consisting essentially of a lower electrode forming layer, a high-melting-point metal layer, a dielectric layer, a binder metal layer, a high-melting-point metal layer, and an upper electrode forming layer.

21. (Currently Amended) A copper clad laminate for forming a capacitor layer, using the copper foil layer of the dielectric-layer-provided copper foil of claim 8 as a lower electrode forming layer, ~~characterized in that~~ wherein:

an upper electrode forming layer is formed on the dielectric layer ~~and~~ to provide a five-layer configuration ~~is used which is formed by five layers~~ consisting essentially of a lower electrode forming layer, a high-melting-point metal layer, a binder metal layer, a dielectric layer, and an upper electrode forming layer.

22. (Currently Amended) A copper clad laminate for forming a capacitor layer, using the copper foil layer of the dielectric-layer-provided copper foil of claim 8 as a lower electrode forming layer, ~~characterized in that~~ wherein:

a binder metal layer and an upper electrode forming layer are formed on the dielectric layer ~~and~~ to provide a six-layer configuration ~~is used which is formed by six layers~~ consisting essentially of a lower electrode forming layer, a high-melting-point metal layer, a binder metal layer, a dielectric layer, a binder metal layer, and an upper electrode forming layer.

23. (Currently Amended) A copper clad laminate for forming a capacitor layer, using the copper foil layer of the dielectric-layer-provided copper foil of claim 8 as a lower electrode forming layer, ~~characterized in that~~ wherein:

a high-melting-point metal layer and an upper electrode forming layer are formed on the dielectric layer ~~and~~ to provide a six-layer configuration ~~is used which is formed by six layers~~ consisting essentially of a lower electrode forming layer, a high-melting-point metal layer, a binder metal layer, a dielectric layer, a high-melting-point metal layer, and an upper electrode forming layer.

24. (Currently Amended) A copper clad laminate for forming a capacitor layer, using the copper foil layer of the dielectric-layer-provided copper foil of claim 8 as a lower electrode forming layer, ~~characterized in that~~ wherein:

a high-melting-point metal layer, a binder metal layer, and an upper electrode forming layer are formed on the dielectric layer ~~and~~ to provide a seven-layer configuration ~~is used which is formed by seven layers~~ consisting essentially of a lower electrode forming layer, a high-melting-point metal layer, a binder metal layer, a dielectric layer, a binder metal layer, a high-melting-point metal layer, and an upper electrode forming layer.

25. (Currently Amended) A copper clad laminate for forming a capacitor layer using the dielectric-layer-provided copper foil of claim 9, ~~characterized in that~~ wherein:

an upper electrode forming layer uses ~~any one~~ a member selected from the group consisting essentially of copper, aluminum, silver, and gold.

26. (Currently Amended) A method for manufacturing the dielectric-layer-provided copper foil ~~for forming a capacitor layer~~ of claim 1, ~~characterized in that~~ said method comprising:

forming an inorganic-oxide sputter film having a thickness of 1.0 μm or less is ~~formed~~ on one side of the copper foil by using ~~the~~ a sputtering vapor deposition method, and

embedding and sealing at least a pit-like defective portion generated on the inorganic-oxide sputter film ~~is embedded and sealed~~ with a polyimide resin by ~~the~~ a polyimide-resin electrodeposition method.

27. (Currently Amended) A method for manufacturing a dielectric-layer-provided copper foil ~~for forming a capacitor layer~~ of claim 4, ~~characterized in that~~ said method comprising:

forming a binder metal layer ~~is formed~~ on the one side of a copper foil,

forming an inorganic-oxide sputter film having a thickness of 1.0 μm or less is ~~formed~~ on the binder metal layer by using ~~the~~ a sputtering vapor deposition method, and

embedding and sealing at least a pit-like defective portion generated on the inorganic-oxide sputter film ~~is embedded and sealed~~ with a polyimide resin by the a polyimide-resin electrodeposition method.

28. (Currently Amended) ~~The~~ A method for manufacturing a dielectric-layer-provided copper foil ~~for forming a capacitor layer~~ according to claim 6, ~~characterized in that~~ said method comprising:

forming a high-melting-point metal layer ~~is formed~~ on the one side of a copper foil, and forming an inorganic-oxide sputter film having a thickness of 1.0 μm or less ~~is formed~~ on the high-melting-point metal layer by using the a sputtering vapor deposition method, and

embedding and sealing at least a pit-like defective portion generated on the inorganic-oxide sputter film ~~is embedded and sealed~~ with a polyimide resin by the a polyimide-resin electrodeposition method.

29. (Currently Amended) ~~The~~ A method for manufacturing a dielectric-layer-provided copper foil ~~for forming a capacitor layer~~ according to claim 8, ~~characterized in that~~ said method comprising:

forming a high-melting-point metal layer ~~is formed~~ on the one side of a copper foil, and forming a binder metal layer ~~is formed~~ on the high-melting-point metal layer,

and forming an inorganic-oxide sputter film having a thickness of 1.0 μm or less is ~~formed~~ on the binder metal layer by using ~~the~~ a sputtering vapor deposition method, and

embedding and sealing at least a pit-like defective portion generated on the inorganic-oxide sputter film ~~is embedded and sealed~~ with a polyimide resin by ~~the~~ a polyimide-resin electrodeposition method.

30. (Currently Amended) ~~The~~ A method for manufacturing a dielectric-layer-provided copper foil ~~for forming a capacitor layer~~ according to claim 27, ~~characterized in that~~ said method further comprising:

using the a polyimide-resin electrodeposition method ~~uses~~ wherein an electrodeposition solution contains a dielectric-filler containing polyimide ~~electrodeposited solution containing dielectric fillers in a polyimide-electrodeposited solution,~~ and

wherein a dielectric powder having a substantially-spherical perovskite structure in which an average particle diameter D_{IA} ranges between 0.05 and 1.0 μm , an accumulated particle diameter D_{50} according to the laser-diffraction-scattering particle-size-distribution measuring method ranges between 0.1 and 2.0 μm , and the value of coherence degree shown as D_{50}/D_{IA} by using the accumulated particle diameter D_{50} and the average particle diameter D_{IA} obtained from an image analysis is 4.5 or less is used for the dielectric fillers.

31. (Currently Amended) ~~The~~ A method for manufacturing a dielectric-layer-provided copper foil ~~for forming a capacitor layer~~ according to claim 30, ~~characterized in that~~ wherein:

the content of dielectric fillers in a dielectric-filler-containing polyimide electrodeposited solution ranges between 75 and 90 wt%.